

The Claims

What is claimed is:

1. A round item of frozen confectionery having an even roundness and a cohesion of greater than 95%, but which essentially lacks an apex, rough edges and forming tool marks.

2. The item of claim 1, in which the frozen confectionery is an ice-cream, an ice-milk or a sorbet each having a percentage overrun of 80 to 120%.

3. The item of claim 1 wherein the frozen confectionery is uncoated, and is obtained by extrusion-forming at a temperature of -7°C or less, wherein its roundness is generated by revolution

4. The item of claim 1, having a frustoconical shape comprising a circular base with a round top, a cylindrical shape having a round top, the shape of a skittle, the shape of a fruit, or the shape of a ball, a hollow sphere, or a hemisphere.

5. The item of claim 4 wherein the fruit shape is of a pear, lemon or strawberry.

6. The item of claim 1, in the form of a ball having a diameter of 30 to 70 mm and a volume of 14 to 180 ml.

7. The item of claim 5, wherein the diameter of the ball is 30 to 40 mm, and its volume is 14 to 25 ml.

8. A packaged frozen confectionery product comprising a plurality of round frozen confectionery items according to

claim 1 positioned upon cells in strips of thermoformed plastic material enclosed by an external packaging.

9. The product of claim 8 wherein the external packaging is a cardboard box.

10. A process for the manufacture of round frozen confectionery items, which comprises:

extruding a frozen confectionery at a temperature of -7°C at a constant pressure;

feeding a roll of the extruded frozen confection to a forming head at a rate which does not generate a countercurrent pressure upstream of the forming head, thus allowing a round portion of the item to be formed which portion essentially lacks an apex, rough edges and forming tool marks.

11. The process of claim 10, wherein the forming head includes at least two diaphragms for forming the round portions of the items, and the roll feeding comprises:

feeding the roll of the extruded frozen confectionery to a first diaphragm to form the round portion of a first item;
diverting the roll to a second diaphragm before a countercurrent pressure is generated upstream of the first diaphragm;

forming a round portion of a second item in the second diaphragm;

diverting the roll back to the first diaphragm before a countercurrent pressure is generated upstream of the second diaphragm; and

repeating these steps until the desired number of items are formed.

12. The process of claim 11, wherein each diaphragm includes between 6 to 8 blades and which further comprises cutting the formed items by opening and closing the diaphragms.

13. The process of claim 12, which further comprises directly depositing the cut portions on a packaging material that is moving past the forming head.

14. The process of claim 11, wherein the diverting of the roll is effected by a rotating cylindrical throttle chamber that distributes it to the diaphragms, and the diaphragms are driven in a synchronized manner so that there is no counterpressure upstream and therefore no notable variation in the supply rate by the fact that when one of the diaphragms is completely open, the other is completely closed.

15. The process of claim 14, in which the cylindrical throttle chamber and the diaphragms can be driven individually by servomotors, such that it is possible to continuously produce portions with forms of revolution which are different from each other.

16. The process of claim 10, wherein the extrusion temperature is between -10°C to -12°C and the frozen confectionery is an ice-cream having a cohesion of greater than 95% and a percentage overrun of 80 to 120%.

17. The process of claim 10, wherein the temperature is between -16°C to -20°C and the frozen confectionery is an ice-milk or a sorbet having a cohesion of greater than 95% and a percentage overrun of 80 to 120%.

18. The process of claim 1, which further comprises forming a plurality of frozen confection items, placing the

items in line in cells on strips of thermoformed plastic material, and packaging the strips in external packagings.

19. The process of claim 18, wherein the external packagings are cardboard boxes.

20. The process of claim 18, in which the strips are closed with an additional cover covering the items, wherein the covers are locked onto the strips and are made of translucent thermoformed plastic material.